Amendments to the Specification:

Please replace the paragraph beginning on page 9, line 1 with the following amended paragraph:

In one exemplary sequence in the embodiment of FIG. 1A, the mobile station requests two channels, and in this example, channels ~~50 and 52~~ 1 and 2 in FIG. ~~1A~~ 1B at 890.0 MHz and 890.4 MHz are available. The base station responds by sending the 890.0 and 890.4 MHz frequency identification to the mobile station. The mobile station in turn updates its transceiver with the frequency information, and the transceiver can listen for data in all frames associated with the 890.2 and 890.4 MHz channels. In this example, two frequency channels have been bonded together to increase transmission bandwidth.

Please replace the paragraph beginning on page 11, line 15 with the following amended paragraph:

In one embodiment, the cellular radio core 110 includes a transmitter/receiver section that is connected to an off-chip antenna (not shown). The transmitter/receiver section is a direct conversion radio that includes an I/Q demodulator, transmit/receive oscillator/clock generator, multi-band power amplifier (PA) and PA control circuit, and voltage-controlled oscillators and synthesizers. In another embodiment of transmitter/receiver section ~~112~~, intermediate frequency (IF) stages are used. In this embodiment, during cellular reception, the transmitter/receiver section converts received signals into a first intermediate frequency (IF) by mixing the received signals with a synthesized local oscillator frequency and then translates the first IF signal to a second IF signal. The second IF signal is hard-limited and processed to extract an RSSI signal proportional to the logarithm of the amplitude of the second IF signal. The hard-limited IF signal is processed to extract numerical values related to the instantaneous signal phase, which are then combined with the RSSI signal.

Please replace the paragraph beginning on page 12, line 15 with the following amended paragraph:

Turning now to the short-range wireless transceiver core 130, the short-range wireless transceiver core 130 contains a radio frequency (RF) modem core 132 that communicates with a link controller core 134. The processor core 150 controls the link controller core 134. In one embodiment, the RF modem core 132 has a direct-conversion radio architecture with integrated

VCO and frequency synthesizer. The RF-unit 132 includes an RF receiver connected to an analog-digital converter (ADC), which in turn is connected to a modem ~~116~~ performing digital modulation, channel filtering, AFC, symbol timing recovery, and bit slicing operations. For transmission, the modem is connected to a digital to analog converter (DAC) that in turn drives an RF transmitter.

Please replace the paragraph beginning on page 15, line 13 with the following amended paragraph:

FIG. 2B shows an exemplary second process ~~210~~ to bond cellular channels and Bluetooth or WLAN channels together to further increase transmission speed for the system of FIG. 2A. The process ~~210~~ receives a request to communicate one or more files with a data transmission size (step ~~212~~ 312). Based on the transmission size and known cellular and Bluetooth or WLAN channel bandwidth, the process ~~210~~ computes the number of frequency channels that are needed (step ~~214~~ 314). Next, the process ~~210~~ requests an allocation of cellular frequency channels from a mobile station to a base station (step ~~216~~ 316). In response, the base station looks up available (open) frequency channels in its memory storage and allocates available frequency channels in response to the request from the mobile station (step ~~218~~ 318). Information on the allocated channels is sent to the mobile station to set up its transceiver to capture data on all allocated channels (step ~~220~~ 320). Once the mobile station sends an acknowledgement that it has set up its RF circuitry to receive data over a plurality of frequency channels, the base station can transmit data over the plurality of frequency channels and the Bluetooth or WLAN channel (step ~~224~~ 324). In this manner, the allocated frequency channels are bonded together to communicate data with high bandwidth using a plurality of long-range and short-range wireless channels. Upon conclusion of data transmission, the mobile station sends a deallocation request to the base station (step 326), and turns off the Bluetooth or WLAN channel (step 328). The base station in turn releases the deallocated channels for other transmissions (step 330).